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EXAMINER

FAN, HUA

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,984	Applicant(s) LEE ET AL.	
	Examiner HUA FAN	Art Unit 4134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/9/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 5-6 objected to because of the following informalities: “said diverse data transmission” lacks antecedent basis. Appropriate correction is required.

Specification

Content of Specification

- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
 - (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
2. “Brief Description of the Drawings” on page 7 rejected to because a) Figure 3 and Figure 4 do not match the content in drawings; b) there is no “Figure 6” in Drawings.
3. “1. CD Master server” on page 12 objected to because “figure 3” in lines 5 does not match what’s disclosed in this paragraph.
4. “3. CAS server” on page 15 objected to because “figure 4” in line 23 does not match what’s disclosed in this paragraph.

Drawings

5. The drawings are objected to because a) Figure 3 and Figure 4 do not match disclosure in specification; the numbers need to be switched. b) Figure 19 blank box needs to be labeled.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 8-11, 14-16, 19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6976093 to Lara et al., in view of US patent 6785713 to Freeman et al.

As to claim 1, Lara et al. discloses in network environment a Content Distribution Master (CD Master) that is a contents synchronization system transmitting the modified contents of source data servers to target servers (figure 2),

said CD Master comprising a Content Distribution Master server (CD Master server) (figure 2; “manager and content distributor”, col. 8, lines 52-55), a Content Monitoring System server (CMS server) (figure 2; “content distributor”, col. 8, lines 38-55), a Content Agent System server (CAS server) (“transmitter of content distributor, col. 3, lines 25-28; col. 8., lines 44-45, agent, web servers, or cache servers” figure 2; figure 9), a Server Monitoring Agent server (SM Agent server) (figure 2; “agent”; col. 3, lines 15-20), a Content Distribution Master Admin Tool (CD Master Admin Tool) (“console”, col. 7, lines 17-23), wherein

said CD Master server manages data distribution and data transmission (“manager and content distributor”, col. 8, lines 52-55; figure 2; col. 3, lines 15-31) and controls the service circumstances of said CMS server, CAS server, SM Agent server (col. 7, lines 7-25) and monitors the data transmission status and the status of said CMS server, CAS server, SM Agent server, CD Master Admin Tool, authentic server (col. 7, lines 7-25);

said CMS server monitors in real time (col.9, lines 34-45, “observes I/O commands”) at the operating system level whether the data of folders designated by a network manager are created, modified or deleted (col. 9, lines 1-6; 34-45), and notifies the modified contents to said CD Master server (col. 9, lines 23-48);

said CAS server transmits data to other CAS servers or receives data from other CAS servers (“transmitter of content distributor, col. 3, lines 25-28; col. 8., lines 44-45, agent, web servers, or cache servers” figure 2; figure 9) according to the instruction of said CD Master server (“manager and content distributor”, figure 2; col. 8, lines 52-55);

said SM Agent server collects server status information about CPU, Memory, Session number of the installed CD Master server, CMS server, CAS server, CD Master Admin Tool, authentic server every constant time interval periodically and notifies the collected information to said CD Master server (“agent”, col. 7, lines 7-10);

Lara et al. does not expressly disclose the network environment includes LAN and WAN. Freeman et al. discloses the network environment includes LAN and WAN (section 1.0).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding the network environment includes LAN and WAN. The suggestion/motivation of the combination would have been to use LAN connection to increase the data transmission speeds between servers (Freeman et al., col. 5, lines 46-48; and use WAN connection to support servers physically located in different regions of a state, city, campus, or room (Freeman et al., col. 5, lines 43-45).

Lara et al. discloses an Admin Tool UI (User Interface) (“console”, col. 7, lines 17-23), which supports server status monitoring (col. 7, lines 7-25), scheduling (col. 16, lines 38-63), synchronization (col. 7, lines 7-25), and job log confirmation (col. 7, lines 12-15). However, Lara et al. does not expressly disclose a GUI (Graphic User Interface) version of Administrator Tool. Freeman et al. discloses an Admin Tool of GUI (Graphic User Interface) environment

(figure 1; section 8.0 "Administrator Tool") being independent from operating system platform based on the development in Java environment (col. 64, lines 5-11) and is a management tool to support the system manager sets server environment easily (col. 63, lines 18-67) and provides intuitive interface (col. 60, lines 48-58) and sets and confirms the service environments including service server management (col. 63, lines 18-67), environment setting between servers (col. 63, lines 18-67), manager's account management (col. 63, lines 18-67), server monitor agent setting (col. 63, lines 18-67), operating environment setting (col. 63, lines 18-39).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding Admin Tool of GUI and additional GUI functionalities. The suggestion/motivation of the combination would have been to improve user friendliness.

Lara et al. does not expressly disclose an authentication server. Freeman et al. discloses authentication server that manages license information (section 7.5 "License Management Subsystem"). Freeman et al. also discloses classifying servers as tree-structured three levels of Region, Group, Server (figure 1, 20; col. 56, lines 17-27), grouped based on network topology being served actually (col. 8, lines 37-41), wherein Region is the highest level (figure 1), Group is a medium level (col. 56, lines 17-27), and Server is a lowest level (figure 20), and manages Region, Group, various servers (section 3.0) and the restriction of the usable days for operating said system (col. 62, lines 54-58).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding authentication server and layered server structure. The suggestion/motivation of the

combination would have been to provide the license management subsystem to support servers that require a license to operate and for controlling the number of connections to sub servers (Freeman et al., col. 42, lines 30-34), and the layered server structure to support servers physically located in different regions of a state, city, campus, or room (Freeman et al., col. 5, lines 43-45).

As to claim 3, Lara et al. discloses a contents synchronization system as set forth in claims 1, wherein it is characterized in that said CD Master comprising:

a communication control unit controlling service environment of said CAS server, CMS server in order to centrally manage (col. 3, lines 15-31; col. 7, lines 7-25) the real time distribution, manual distribution, reserved distribution of modified contents in networks (col. 16, lines 37-63) and monitoring the status of said CD Master server in the path of contents transmission path (col. 7, lines 7-25; col. 14, lines 1-17) and specifying the bypass in case of failure (col. 13, lines 39-42; col. 14, lines 10-17) and controlling communication flow through the communication protocols (col. 13, lines 26-38) with said CMS server, CAS servers, SM Agent servers, CD Master Admin Tool;

a contents transmission management unit controlling the distribution and management of information (col. 3, lines 15-31; col. 7, lines 7-25) related to the real time distribution, manual distribution, reserved distribution of contents (col. 16, lines 37-63);

a server fail over management unit controlling the specification of the bypass for contents synchronization among said CD Master server, CMS server, CAS server in case of failure of said CD Master server, CMS server, CAS server in routing path (col. 13, lines 39-42; col. 14, lines 10-17);

a contents transmission job logging and statistical information management unit (col. 7, lines 12-15) performing the real time synchronization, reserved synchronization or manual synchronization about the modified contents of said CMS server (col. 16, lines 37-63) and recording and controlling the logging and statistical information about the synchronization results (col. 7, lines 12-15).

Lara et al. does not expressly disclose an authentication server. Freeman et al. discloses an authentication server (section 7.5).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding authentication server. The suggestion/motivation of the combination would have been to provide the license management subsystem to support servers that require a license to operate and for controlling the number of connections to sub servers (Freeman et al., col. 42, lines 30-34).

Lara et al. discloses a real time server status monitoring management unit and informing to a manager the status (col. 7, lines 7-25). However, Lara et al. does not expressly disclose monitoring the status of CPU, memory, socket of source servers including said CMS server, CAS server and outputting the status of the source servers in the form of graph or table through the CD Master Admin user interface, and informing to a manager the status at once if the status of CPU, memory, socket of the monitored servers is abnormal or the status value is above a predetermined critical value. Freeman et al. discloses monitoring the status of CPU, memory, socket of source servers (“client session data”, col. 8, line 52-col. 9, line 31; col. 39, line 50 – col. 40, line 3) , and outputting the status of the servers in the form of graph or table through

Admin user interface (col. 42, lines 5-27). Freeman et al. also discloses an event subscription mechanism (col. 40, lines 7-13) that can be used for status alarming once some predetermined status are changed.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding monitoring the status of CPU, memory, socket of source servers, and the event alarm mechanism. The suggestion/motivation of the combination would have been to provide a mechanism to dynamically collect a predetermined type of data from the other servers in run-time (Freeman et al., col. 8, lines 52-55, 62-65).

As to claim 8, Lara et al. and Freeman et al. disclose all limitations in claim 1. Furthermore, Lara et al. discloses a contents synchronization system as set forth in claim 1, wherein it is characterized in that said CAS server comprises:

a Sync Client (“content distributor residing on host” and “agent”, col. 8, lines 43-46; col. 13, lines 5-25), a library performing functions of create, update, rename, delete, erase, move of files according to the command of said CAS server (“agent”, col. 13, lines 5-25),

a Sync Server (“content distributor residing on host” and “agent”, col. 8, lines 43-46), transmitting data to other CAS servers by performing one of create, update, rename, delete, erase and move of files or folders for monitoring directories detected by said CMS server according to the instructions of said CD Master (“content distributor residing on host”, col. 8, 43-46; col. 8, line 56 - col. 9, lines 6) or receiving data from other CAS servers and storing remote files to local through communication according to the request of said remote Sync Client (“agent”, col. 13,

lines 5-25), which is an independent process from said CAS server internally (“content distribution” process and “agent” process are independent processes; see figure 2);

a CAS agent performing commands transmitted from said CD Master (figure 2, “agent”).

Freeman et al. discloses a routing table for the data transmission (figure 4A – 4C).

As to claim 9, Lara et al. discloses a contents synchronization system as set forth in claim 1, wherein it is characterized in that said CMS server comprises:

a device driver at kernel level of operating system, notified information about directories and files to be monitored for creation, deletion, modification, movement of files and environment files about patterns of files to be monitored from said CD Master server and notifying information about create, delete, modify, move of files and directories by in real time monitoring the change of the files and directories to said CD Master server in case files change in corresponding environment (col. 8, lines 52-55; “kernel device driver”, col. 9, lines 1-6);

a CMS Agent for contents synchronization for defining original files and directories for that contents synchronization will be performed, synchronization patterns (col. 8, line 56 - col. 9, lines 6);

an environment setting file (col. 18, line 32 – col. 19, line 34); and

a File Detect Buffer for storing created, deleted, modified, moved information by monitoring the modified contents in real time (col. 9, lines 34-65).

As to claim 10, Lara et al. in view of Freeman et al. teach all limitation in claim 1 including collecting server status information CPU, Memory, Session number of servers in constant cycle. Furthermore, Freeman et al. discloses an event alarm mechanism by subscribing

the certain type of information (col. 40, lines 7-13) that can be used for status alarming once some predetermined status is changed.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding the event alarm mechanism. See similar motivation in claim 3 rejection.

As to claim 11, Lara et al. in view of Freeman et al teach all limitations in claim 1 and in claim 10. Furthermore, Lora et al. in view of Freeman et al. discloses a contents synchronization system as set forth in claim 10, wherein it is characterized in that said server monitoring information is got by said SM Agent server and referenced in transmission for synchronization of said CD Master (Lora et al., col. 7, lines 7-25) and if failure of a CAS server of contents synchronization path is monitored, said CD Master performs contents synchronization for other CAS servers except the corresponding CAS server (Lora et al., col. 13, lines 39-59; col. 14, lines 10-17) and in case the corresponding CAS server, in which the failure has occurred is recovered later, then the synchronization is performed by a CAS server in neighboring other path (Freeman et al., col. 40, lines 44-56) and in case as a result of monitoring by said SM Agent server, server's physical problems or software problems including PING failure, failure of each PORT monitoring, Agent response failure, or load of CPU, Memory and Session are monitored, said CD Master server notifies the monitored results to a manager through alarm information, SMS, E-mail by using CD Master Admin Tool and makes the manager check the status of servers and respond rapidly for failures (see similar rejection to claim 3).

As to claim 14, Lara et al. in view of Freeman et al teach all limitations in claim 1. Furthermore, Lara et al. in view of Freeman et al. discloses a contents synchronization system as

set forth in claim 1, wherein it is characterized in that said Group from the point of view of CD Master operation can perform optimal contents synchronization automatically or manually (Lara et al., col. 16, lines 38-41) through designated contents routing path among grouped servers (Freeman et al., figure 4A – 4C) based on network topology (col. 8, lines 37-41), and classification by Region and Grouping among servers classify logically (Freeman, section 1.0, paragraph 2; col. 8, lines 48-51) neighboring servers into a Group or a Region and the Grouping among servers makes it possible to perform synchronization effectively in same Groups or same Regions (col. 25, lines 54-57) in case of contents synchronization according to the automatic or manual routing path and when several servers are combined by groups, although manual routing path is not provided, the effects of contents synchronization is maximized by designating optimal routing path (col. 25, lines 54-67; col. 20, line 46 - col. 21, line 19).

As to claim 15, Lara et al. discloses a contents synchronization system as set forth in claim 1, wherein it is characterized in that said system keeps contents of all server groups identical with each other in order to provide services according to the objects for multiple server groups (col. 2, lines 24-37) clustered through load balancer installed with switching facilities (col. 7, lines 31-63; col. 8, lines 25-37), wherein said server groups have the same objects.

As to claim 16, Lara et al. discloses in network environment a contents synchronization method using a contents synchronization system transmitting the modified contents of source servers to target servers, said system having a Content Distribution Master server (CD Master server) (figure 2; “manager and content distributor”, col. 8, lines 52-55), a Content Monitoring System server (CMS server) (figure 2; “content distributor”, col. 8, lines 38-55), several Content Agent System servers (CAS servers) (“transmitter of content distributor, col. 3, lines 25-28; col.

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8., lines 44-45, agent, web servers, or cache servers” figure 2; figure 9), a Server Monitoring Agent server (SM Agent server) (figure 2; “agent”; col. 3, lines 15-20), a Content Distribution Master Admin Tool (CD Master Admin Tool) (“console”, col. 7, lines 17-23), said method comprising:

- a step for setting the synchronization policy by the CD Master Admin Tool (col. 7, lines 7-14);

- a step for monitoring files and directories of a specific server in real time according to the set policy by the CMS server (col. 9, lines 23-48);

- a step for checking by the CMS server whether there are creation, modification, deletion or move of contents as a result of the monitoring (col. 9, lines 23-48);

- a step for performing said monitoring step again if there are no creation, modification, deletion or move of contents as a result of said check, but if there are creation, modification, deletion or move of contents, then notifying of the CMS server to the CD Master server in real time that there are creation, modification, deletion or move of contents (col. 9, lines 23-48);

- a step for confirming by the CD Master server whether there is failure among the CD Master server, the CMS server, the CAS servers according to the contents routing path (col. 13, lines 39-59; col. 14, lines 10-17);

- a step for selecting a contents routing path by selecting a bypass if there are no creation, modification, deletion or move of contents as a result of said confirmation (col. 13, lines 39-59);

- a step for instructing by the CD Master server a synchronization command to each CAS server to transmit said created, modified, deleted or moved contents to target servers (col. 8, lines 38-67);

a step for transmitting the corresponding contents to target servers according to designated path or bypass by the CAS server (col. 13, lines 39-59);

a step for notifying the transmission results to the CD Master server by the CAS server after said transmittance (col. 14, lines 3-17);

Lara et al. does not expressly disclose the network environment includes LAN and WAN. Freeman et al. discloses the network environment includes LAN and WAN (section 1.0).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding the network environment includes LAN and WAN. See similar motivation in claim 1 rejection.

Lara et al. does not expressly disclose an authentication server. Freeman et al. discloses authentication server that manages license information (section 7.5 “License Management Subsystem”).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding authentication server. See similar motivation in claim 1 rejection.

Lara et al. does not expressly disclose a step for selecting a predefined contents routing path if there are creation, modification, deletion or move of contents as a result of said confirmation. Freeman et al. disclose a predefined routing path (col. 20, line 46 – col. 21, lines 19; col. 25, lines 54-67).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding predefined routing path. See similar motivation in claim 1 rejection.

Lara et al. does not expressly define a step for confirming by the CD Master server whether there is a next contents routing path. Freeman et al discloses alternative routing path (col. 20, line 46 – col. 21, line 19; col. 25, lines 54-66).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding second routing path. See similar motivation in claim 1 rejection.

Lara et al. discloses a step for performing said step for confirming by the CD Master server whether there is failure among the CD Master server, the CMS server, the CAS servers (col. 13, lines 39-59; col. 14, lines 10-17). However Lara et al. does not differentiate the method by checking if there is next routing path. Freeman et al. disclose a method of providing routing path table (figure 4A – 4C) and finding optimal routing path (col. 25, lines 54-67; col. 20, line 46 - col. 21, line 19).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. with the method disclosed by Freeman et al. regarding routing table and optimal routing path. See similar motivation in claim 1 rejection.

As to claim 19, Lara et al. in view of Freeman et al. teach all limitations in claim 16. Furthermore, Lara et al. in view of Freeman et al. discloses a contents synchronization method as set forth in claim 16, wherein it is characterized in that the operation of the CAS servers comprises:

a step for receiving jobs for synchronization by the CAS servers from the CD master server (Lara et al., agent receiving list from content distributor, col. 13, lines 5-25);

a step for confirming IP addresses of another CAS server or other CAS servers that would execute synchronization by searching the routing tables stored in the CAS servers by CAS Agents that received synchronization commands from the CD Master server (Freeman et al., figure 4A – 4C);

a step for calling Sync Clients locating in CAS servers (Lara et al., content distributor calling agent to update files, figure 2; col. 8, lines 56-67);

a step for executing create, update, rename, delete or move commands for synchronization in the CAS servers by the Sync Clients (Lara et al., agent, col. 13, lines 5-25);

a step for transmitting the performance results of said transmitted jobs to the Sync Servers locating at a long distance (Lara et al., figure 2; col. 7, lines 7-25; col. 14, lines 1-17);

a step for notifying the performance results of said transmitted jobs to CAS agent by local Sync Clients (Lara et al., figure 2; col. 7, lines 7-25; col. 14, lines 1-17); and

a step for completing contents synchronization among all CAS servers by contents routing path and receiving the completed results of the synchronization jobs from each CAS server and transmitting the results to the CD Master server (Lara et al., col. 7, lines 7-25; col. 14, lines 1-17).

As to claim 22, Lara et al in view of Freeman et al. discloses a contents synchronization method as set forth in claim 16, wherein it is characterized in that operation procedure of the SM Agent server comprises:

a step for collecting information about CPU, Memory and Session that are system resources of source servers (see similar rejection to claim 3);

a step for transmitting said collected information to the CD Master server; a step for receiving said collected information by the CD Master server (see similar rejection to claim 3);

a step for constructing database from said received data; a step for confirming whether servers are normal or not based on said collected information (Lara et al., col. 7, lines 7-25);

a step for reporting said confirmation results of servers to a manager through a predetermined method including an alarm, SMS and E-Mail (see similar rejection to claim 3);

a step for recognizing failure through the CD Master Admin Tool by the manager (Lara et al., col. 7, lines 7-25); and

a step for inspecting status of servers (Lara et al., col. 7, lines 7-25).

8. Claims 2, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6976093 to Lara et al., in view of US patent 6785713 to Freeman et al.. as applied to claim 1 above, and further in view of US patent 5895455 to Bellinger et al., and further in view of US publication 2005/0038660 by Black et al.

As to claim 2, Lara et al disclose a contents synchronization system as set forth in claim 1, wherein it is characterized in that said CD Master performing:

a multiple data transmission method function including real time transmission, manual transmission, reserved transmission (col. 16, lines 38-63, real time transmission with delay = 0); a multi data transmission path setting function (col. 13, lines 39-48); and a data transmission fail-over function by network failure (col. 13, lines 39-59; col. 14, lines 10-17). Lara et al. does not expressly disclose a data filtering function that includes or excludes data and uses regular

expression method, wherein the include helps said CD Master to make a manager specify the kind of data to transmit to target servers and only transmit a specific kind of data to target servers, and the exclude helps CD Master to make a manager exclude a specific kind of data files from the transmission. Bellinger et al. discloses a data filtering method that uses regular expression such as wildcard (col. 29, lines 2-21).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method disclosed by Bellinger et al. regarding date filtering. The suggestion/motivation of the combination would have been to allow user to define selection criteria for listing the archived items (Bellinger et al., col. 29, lines 1-2).

Lara et al. in view of Freeman et al. does not expressly disclose a multi contents generating function. Black et al. discloses a multi contents generating function ([0005]).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method disclosed by Black et al. regarding multi content generating function. The suggestion/motivation of the combination would have been to support selecting the appropriate informational data and to facilitate its transfer to the media device at the correct time (Black et al., [0005], lines 1-4).

As to claim 4, Lara et al. in view of Freeman et al., Bellinger et al., and Black et al. teach all the limitations in claim 2, including designate the synchronization timing of data diversely (Lara et al., col. 16, lines 38-63). Furthermore, Freeman et al discloses transmitting data in multiple source servers to all target servers in another network center or another reason, where in

case N and M are arbitrary natural numbers, the transmission service is called as N:M type data transmission service (col. 24, lines 50-64; figure 3; figure 1, “Boston Server Farm”).

As to claim 5, Lara et al. in view of Freeman et al., Bellinger et al., and Black et al. teach all the limitations in claim 2 including said diverse data transmission function makes that in case data of source servers is changed, data synchronization timing of target servers is set as one of a real time transmission to transmit data at once to all target servers, a manual transmission for a manager to instruct transmission of data manually, and a reserved transmission to transmit data at a designated specific time or every regular time interval (Lara et al., col. 16, lines 38-63).

As to claim 6, Lara et al. in view of Freeman et al., Bellinger et al., and Black et al. teach all the limitations in claim 2 including diverse data transmission path setting function.

Furthermore, Freeman et al. discloses the manager set data transmission path flexibly (col. 39, lines 29-48) according to network structure (col. 40, lines 44-56) and status of servers (col. 39, line 29 - col. 40, line 6) by making Master use a grid network method and in case of data transmission each service server shortens the data transmission time by allotting a role (col. 25, lines 5-17) and reduces the burden of CPU and network of each service server up to the least (section 7.4 “load management subsystem”) and distributes load according to the hardware specification of each service server (section 7.4, “load management subsystem”).

As to claim 7, Lara et al. in view of Freeman et al., Bellinger et al., and Black et al. teach all the limitations in claim 2. Furthermore, Lara et al. discloses in case of network's failure, the data transmission fail-over function makes it possible for said CD Master to transmit data via bypass by preparing for a case of no-transmission of data in a specific section (col. 14, lines 10-17; col. 13, lines 39-59). Freeman et al. discloses monitoring the load and status of all server

including no-transmission servers, and whether they belong to the same Group, to the same Region or to an international Region among Region, Group and Server of an existing structured network (section 7.4 "Load Management Subsystem") and data is transmitted again from a nearest CAS server (col. 40, lines 44-56) and in case data cannot be transmitted from every CAS server because of a fatal problem of a server, and the transmission is retried a predetermined times (col. 34, lines 29-34, 55-60). Lora et al. further teaches if the result of transmission of the CAS server is fail, said CD Master server performs contents synchronization for corresponding target servers according to the recovery procedure of preset target servers in case of failure recovery of target servers in which the corresponding failure occurred (col. 13, lines 39-59; col. 14, lines 10-17) and in the procedure it should be set selectively according to the circumstances whether contents synchronization should be performed at once after server's failure is recovered, or contents synchronization should be performed at a reserved time which a manager designated, or contents synchronization of target servers having failure transmission should be performed manually (col. 16, lines 38-63).

9. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6976093 to Lara et al., in view of US patent 6785713 to Freeman et al., as applied to claim 1 above, and further in view of US patent 7134141 to Crosbie et al.

As to claim 12, Lara et al. in view of Freeman et al. teach all limitations in claim 1. Furthermore, Lara et al. in view of Freeman et al. discloses a contents synchronization system as set forth in claim 1, wherein it is characterized in that

a management function of said service servers makes it possible through said CD Master Admin Tool that a network manager adds a server newly to be a service object of said CD

Master and modifies and deletes the environments of existing registered servers (Freeman et al., col. 56, lines 16-28);

an environment setting function of said CMS server and CAS servers makes it possible for said CMS server to set path to store data received from CAS servers installed in other servers (Lara et al., col. 12, lines 30-51);

a management function of said manager account creates, modifies, deletes the account and information of the manager with that the access to said CD Master Admin Tool is possible (Freeman et al., col. 63, lines 39-67; col. 48, lines 25-36);

said server monitoring function shows the current status of registered service servers in forms of graph and table (Freeman et al., figure 20; col. 63, lines 18-38);

said work log confirmation function makes it possible to confirm all job log about all synchronization jobs, manual jobs, reserved jobs that are performed under control of said CD Master server (Lara, col. 7, lines 13-16; col. 16, lines 38-63); and

said management function is an application of GUI environment that can operate independently from platforms of operating system (Freeman et al., col. 63, line 63 - col. 64, line 11), and makes it possible to manage network easily and simply (Freeman et al., section 1.0, paragraph 2).

Lara et al. in view of Freeman et al. does not expressly disclose set files and folders to be monitored. Crosbie et al. disclose a method to set files and folders to be monitored (claim 28-29).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method

disclosed by Crosbie et al. regarding setting files and directories to be monitored. The suggestion/motivation of the combination would have been to detect changes to critical files/directories by monitoring a predetermined set of files for modifications (Crosbie et al., col. 6, lines 58-62).

As to claim 13, Lara et al. in view of Freeman et al. and Crosbie et al. teach all limitations in claim 12. Furthermore, Lara et al. in view of Freeman et al. discloses a contents synchronization system as set forth in claim 12, wherein it is characterized in that said CD Master Admin tool sets environments related to communication environment of said CAS servers (Freeman et al., col. 42, lines 5-27; col. 23, lines 18-67), original directories and mapping directories through environment setting function of said CAS servers (Lara et al., col. 12, lines 30-64).

10. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6976093 to Lara et al., in view of US patent 6785713 to Freeman et al., as applied to claim 16 above, and further in view of US patent 7260720 to Yamamoto et al.

As to claim 17, Lara et al in view of Freeman et al. disclose all limitations in claim 16. However, Lara et al in view of Freeman et al. does not expressly disclose further a step for issuing said license key by the authentication server, and said issuing step has steps for:

- setting license information through registration at Company/Site by a manager;
- issuing Company/Site License Files to customers by the manager;
- issuing Install License File about License Key issued to customer;

setting license information through registration at Company/Site by the manager; and storing the Company/Site License Files received from the manager and the issued Install License Files in the CD Master server.

Yamamoto et al. discloses setting license information through registration at Company/Site ("common information shared by a group", claim 1); issuing Company/Site License Files to customers ("transmitting data to second device", claim 7); issuing Install License File about License Key issued to customer ("generate a random number, and generate transmitting data that includes the generated random number as the key information", claim 2); setting license information through registration at Company/Site by the manager; and storing the Company/Site License Files received from the manager and the issued Install License Files in the CD Master server ("A communication device for determining whether or not a partner device and said communication device belong to a same group by mutually authenticating with the partner device", claim 23).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method disclosed by Yamamoto et al. regarding issuing license files. The suggestion/motivation of the combination would have been to realize efficient utilization of a communication channel by not communicating with terminals that are not allowed to obtain certain content (Yamamoto et al., col. 2, lines 40-42).

As to claim 18, Lara et al. in view of Freeman et al. and Yamamoto et al. discloses all limitations in claim 17, including contents synchronization method as set forth in claim 17, wherein it is characterized in that the verification about customer information and certificate

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information is performed by License key issued through the above process (see similar rejection to claim 17). Furthermore, Freeman et al. discloses operates the process of the CAS servers, CMS server and CD Master server and customers using a non-certificated license key has limit to operation of the normal process and cannot execute contents synchronization process (col. 42, lines 29-50; col. 43, lines 41-44).

11. Claims 20/18, and 20/17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6976093 to Lara et al., in view of US patent 6785713 to Freeman et al., and further in view of US patent 7260720 to Yamamoto et al., as applied to claim 17 above, and further in view of US publication 2002/0138442 by Hori et al., and further in view of "The rsync algorithm" by Tridgell et al., and further in view of US patent 5506872 to Mohler.

As to claim 20/18, Lara et al. in view of Freeman et al. and Yamamoto et al. teach all limitations in claim 18. Furthermore, Lara et al. in view of Freeman et al. discloses a contents synchronization method as set forth in claim 18, wherein it is characterized in that

in case of data transmission among the CAS servers compressed data transmission function is performed and in case of contents synchronization the compressed data transmission function compresses and encodes data and reduces network's load (Lara et al., col. 12, line 63 - col. 13, line 4).

said file transmission is specified in consideration of characteristics of network structure including International Region that does not belong to Same Region, Same Group (Freeman et al., col. 5, lines 38-45),

Lara et al. in view of Freeman et al. does not expressly disclose contents synchronization is performed by defining whether encryption is used or not by combination of AND conditions, or at the same time by specifying whether SSL encryption is used,

the CD Master server supports packet encryption of transmission data using SSL and previously intercepts information leakage through hacking by using encryption function in order to protect important data and contents of enterprises and persons, and

it is possible to define SSL encryption section selectively among the whole sections of source servers and target servers, wherein by reflecting network status of LAN and WAN sections to the maximum and setting, transmission rate increases and data is protected safely.

Hori et al. discloses encrypting content data ([0018]), defining whether encryption and/or SSL is used or not by selecting candidate encryption system for at least one section of the systems ([0066] – [0067]).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method disclosed by Hori et al. regarding encrypting contents and selecting encryption systems. The suggestion/motivation of the combination would have been to protecting copyright and also generate encrypted content data and providing the generated, encrypted content data to a site allowing each user to obtain the data (Hori et al., [0018]).

Lara et al. in view of Freeman et al. does not expressly disclose in case of the file transmission the whole files are dump copied but in case of frequently updated files only the changed parts of files are transmitted after comparison of files, wherein the transmission method is called as different patch. Lara et al. in view of Freeman et al. does not define whether to use

dump copy or different patch. Tridgell et al. discloses updating and transmitting only the changed parts of files (abstract).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method disclosed by Tridgell et al. regarding updating and transmitting only the changed parts of files. The suggestion/motivation of the combination would have been for speed improvement (Tridgell et al., section “The problem”, paragraph 6).

Lara et al. in view of Freeman et al. does not disclose the manager sets predetermined multi-level compression rates in consideration of network bandwidth of each transmission section. Mahler discloses dynamically selecting compression-rate depending upon different capacities of the receiving media (col. 3, lines 49-61).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method disclosed by Mahler regarding dynamically selecting compression-rate depending upon different capacities of the receiving media. The suggestion/motivation of the combination would have been to provide great cost and performance advantages for limited-capacity systems, such as messaging systems (Mahler, col. 2, lines 42-44).

As to claim 20/17, see similar rejection to claim 20/18.

12. Claim 20/16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6976093 to Lara et al., in view of US patent 6785713 to Freeman et al., as applied to claim 16 above, and further in view of US publication 2002/0138442 by Hori et al., and further in view of “The rsync algorithm” by Tridgell et al., and further in view of US patent 5506872 to Mohler.

As to claim 20/16, see similar rejection to claim 20/18.

13. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6976093 to Lara et al., in view of US patent 6785713 to Freeman et al., as applied to claim 16 above, and further in view of "The rsync algorithm" by Tridgell et al.

As to claim 21, Lara et al in view of Freeman et al does not expressly disclose a contents synchronization method as set forth in claim 16, wherein it is characterized in that a transmission algorithm for contents synchronization of the CAS servers. Tridgell et al. discloses an algorithm comprising:

- a step for transmitting Offsets of source files and list of 32-bit rolling checksum from a CAS server (hereafter called as CAS server A) to another CAS server (hereafter called as CAS server B) among several CAS servers, in case there exist similar files between CAS server A and CAS server B (Section "The rsync algorithm", paragraph 2. Step 2-3);

- a step by CAS server B for comparing checksum of the corresponding index of said transmitted files by using hashing technique (Section "The rsync algorithm", paragraph 2. Step 4; Section "Checksum searching");

- a step for only transmitting the corresponding indexes and changed parts to CAS server A by CAS server B if discordant parts are detected from results of said comparison (Section "The rsync algorithm", paragraph 2, step 5), and

- a step for only updating the discordant parts from CAS server A to CAS server B (by repeating the above step in reverse direction).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the method disclosed by Lara et al. in view of Freeman et al., with the method

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disclosed by Tridgell et al. regarding rsync algorithm. The suggestion/motivation of the combination would have been to provide an algorithm for updating a file on one machine to be identical to a file on another machine and only send those parts which cannot be matched (Tridgell et al., abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUA FAN whose telephone number is (571)270-5311. The examiner can normally be reached on M-F 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lunyi Lao can be reached on (571) 272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. F./

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